Index to Volume XXXIII

Page citations are made to single pages; these are often the beginning of a chapter, section, or running discussion dealing with a topic.

Additivity: 496

Administration in special education: buildings and equipment in relation to, 11; salary structure and differentials within framework of, 11; transportation as problem in, 12

Analyses and implications of disciplines: English, 248; mathematics, 248; science, 248; social sciences, 248

Analysis of variance and design of experiments, developments in: mixed model—repeated measurement designs, 491; multifactor designs without repeated measurements, 493; philosophical basis for inference from experimental studies, 490; special topics in design and analysis, 495

Appraisal function in relation to: communicating appraisal information, 193; evaluation of test reports, 193; interpreting data, 190; nontest methods, 190; scoring and score conversions, 189; test taking and its preparation, 188

Assessment of teacher behavior and instruction: criterion problem, 422; future research, 433; general references concerning, 416; information system model, research literature viewed within framework of, 420; interpersonal relations in classroom, 424; limitations in findings, 431; methodology, 422; observation, 423; overview of trends in research, 415; scheme for classifying teacher behaviors, 423; teacher effectiveness, 431; theory of instruction and teacher behavior, 419

Assumptions in two-group designs: 497

Authorship, inference concerning: 479

Automated instruction and teaching machines: 271

Autonomy of teachers: 402

Background in special education: comparative aspects of, 7; legislation, 6; philosophy and theory, 5; research theory, 6; services, need for and extent of, 6

Bayesian statistical theory: contributions to statistical inference, 462; in decision theory, 557; in psychological literature, 477

Books in statistical methodology, citation and description of: 474

Campus laboratory school: 377

Career conferences: 210

Career development: general, 197; in women, 200

Certification: levels of responsibilities, 344; state-by-state variations, 343; teacher examinations, 345; trends, 346; variations in, 344

Chart or charter, recent developments in educational discourse: 233

Chemistry: 282

College instruction: research in, 431

Computers in educational research: automated classroom in relation to, 571; developments in computer usage, 567; developments in programming languages, 573; information storage and retrieval, 572; noncomputational uses, 568; pattern recognition and generation, 571; selection and training of computer programmers, need for improvement in, 574; simulation in educational administration, 572; simulation in learning, problem solving, and concept attainment, 568; simulation of behavior in social groups, 569; simulation of personality, 570; theory development, use of computers in, 573

Computers in regression analysis: 505

Concepts and purposes underlying guidance and personnel practice: in colleges and universities, 147; in schools, 147

Conditions of employment and service in elementary and secondary schools: economic status and economic conditions of employment, 386; employment, assignment, and turnover, 385; evaluation, retention, and dismissal, 385; needed research in, 388; staff organization and utilization, 383; teacher

load, 384; teacher morale and job satisfaction, 387; teacher status and role expectations, 382

Contingency tables: 484

Contributions to statistical inference: Bayesian statistical theory, 462; Fisher, 458; Neyman and Pearson, 458; Wald, 460

Contributions to theory: 445

Correlation analysis: measures of association, 506; measures of correlation, 507

Counseling: avowed goals, 179; diagnosis, 183; methods, 183; obtained results, 180; theory construction, 179

Counseling procedures, group: 205

Covariance analysis: 497

Crippling conditions and special health problems, children with: adjustment of, 102; characteristics of, 102; curriculum and methods for, 105; educational provisions for, 104; identification and classification of, 99; incidence of, 101; intelligence of, 103; medical screening of, 99; needed research in study of, 105; psychological screening of, 100; special classes and enrollments for, 104

Criterion problem: in assessment of teaching, 422

Criticisms of educational research: 233

Curriculum and communications media: merchandising and research, 302; technology of teaching, 301

Curriculum components and organization: curriculum organization, 288; English, 284; foreign languages, 287; mathematics, 278; social studies, 287

Curriculum development, dynamics of change in: contributions from related fields, 315; diffusion of innovations, 306; field demonstration, 308; need for further research, 316; redefinition of change, 310; roles, role perception, and personality structure in change, 311; search for models, 304

Curriculum organization: team teaching, 288; track organization, 289

Curriculum planning and development: new and promising areas of curriculum research, 332; new and promising research procedures, 333; studies of critical significance in, 330; theory of, 334

Curriculum research: issues in, 326; problem of design, 324; problem of relational contexts, 322

Data analysis and statistical hypothesis testing: 469

Deaf and hard of hearing: communication, techniques of, 51; hearing aids, 49; hearing tests, 49; incidence and causes of deafness, 48; in other countries, 57; integration into hearing groups, 55; intelligence tests, 51; language development, 53; machines to aid, 53; miscellaneous studies concerning, 56; multiple handicaps in relation to, 56; vocational and social adjustment of, 54

Decision theory: conclusion theory in relation to, 467; discussion of, 556

Decision theory and utility management: basic considerations, 557; central concepts, questions, and difficulties, 558; general references, 557; mathematical expectation, 559; probability, 558

Description of teacher behavior based on: direct observation, 428; inferences, 428

Design: in experiments, 490; in factor analytic studies, 510; in sample surveys, 523

Development of theories of statistical inference and significance tests: 457

Disciplines: analyses and implications of, 247; curriculum source recognized, 245

Dismissal of teachers: 385

Economic status and economic conditions of employment for teachers: 386

Educational discourse, recent developments in: 233

Educational research, criticisms of: 233

Elementary and secondary school programs: issues relating to coordination of pupil personnel services, 159; organization and administration of guidance services, 152; roles and functions of pupil personnel workers, 156

Elementary school teacher education: 370

Emotionally and socially handicapped: dynamic factors in therapeutic education for, 116; identification of, 110; identification of dynamic factors in maladjustment of, 111; incidence and screening of, 110; psychoeducational procedures with, 115; role of school in relation to, 115; school consulta-

tion and liaison with regard to, 117; special classes and related educational provisions for, 115; therapies affecting learning of, 118; training of teachers for, 114

Employment, assignment, and turnover: 385

English: review of studies, 285; theory of language instruction, 284

Evaluation: in elementary and secondary schools, 385; in higher education, 392; of research reviewed in issue, 442

Factor analysis, decisions within single study employing: communality and rank, 515; rotational options, 516

Factor analytic methodology: decisions within a single study, 514; design of studies, 510; selected applications of methods, 518

Factor analytic studies, design of: hypotheses and interpretations, 510; other techniques and models, 513; *P*-, *Q*-, and *R*-techniques, 512

Factor studies: contributions to identification of characteristics in training and selection of teachers, 364

Forces influencing curriculum decisions: organized knowledge, 245; psychological, 268; societal, 254

Foreign languages: 287

Foundations in guidance, counseling, and personnel services: concepts and purposes of, 146; philosophical trends in, 146; society and culture in relation to, 143

Future of research in teacher personnel: 446

Gifted: ability grouping in relation to, 91; acceleration for, 93; achievement, underachievement, and achievement motivation in, 88; characteristics and identification of, 84; community and parental attitudes toward special education for, 90; creativity in relation to, 87; curriculum developments and adaptations for, 89; curriculum studies for, 93; economics of talent, 84; general developments concerning, 94; intellectual characteristics of, 84; major books concerning, 94; needed research concerning, 94; personal and social characteristics of, 85

Group counseling: 205

Group dynamics: applications of, 208

Group interaction: 271

Group procedures: applications of group dynamics, 208; counseling with parent groups, 208; group counseling, 205; occupations units, career conferences, and vocational guidance in regular course work, 210; orientation and special guidance courses, 209

High standards needed in selecting publications for the REVIEW: 443

Higher education programs: in extended education, 166; in four-year colleges, 163; in junior colleges, 166; in relation to issues underlying research needs, 168

Hypothesis testing and statistical inference: 455

Hypothesis testing in relation to statistical methodology: development of theories of statistical inference and significance tests, 457; hypothesis testing and statistical inference, 455; problems in statistical hypothesis testing, 466

Identification and classification of children who are: emotionally and socially handicapped, 110; gifted, 84; visually handicapped, 38

Incidence of children with: crippling conditions and special health problems, 101; deafness and hearing loss, 48; emotional and social handicaps, 110; special handicaps, 99; speech handicaps, 20

Information system model of teaching: external inputs—conditions external to the teacher, 426; internal inputs contributing to instructor behavior, 424; products of instructor behaviors—pupil behaviors, 429; teacher behaviors—outputs of teacher information processing, 427; teacher information processing behavior, 426

Information theory: 535

In-service education of teachers: 373

Instructor, or teacher, behavior: teacher-student variables in, 424

Interpreting data in the appraisal function: counselor vs. statistical prediction, 191; differential predictability, 192; expectancy studies, 190; use of *Strong Vocational Interest Blank*, 191

Issues relating to coordination of pupil personnel services: 159

Latin square designs: 495
Legal status of teachers: certification, tenure, and autonomy, pertaining to, 402; civil rights, regarding, 403; compensation, residual rights, and royalties in relation to television, radio, and programed instruction, 404; retirement, with reference to, 405; teacher-board relations, concerning, 404; teacher-pupil relations, concerning, 404
Likelihood principle and statistical inference: 464
Load for teachers: 384

Mathematics: Educational Testing Service study, 279; Minnesota National Laboratory studies, 279; SMSG research, 280
Mathematics and psychology: 540
Mentally retarded: basic educational problems of, 66; curricular adaptations for, 72; educational provisions for, 70; family and community relationships with respect to, 74; follow-up studies of postschool adjustment of, 73; identification and classification of, 62; issues regarding, 76; learning by, 66; motivation of, 68; motor performance of, 69; programed instruction for, 126; research needed with respect to, 76; screening procedures and population trends for, 64; terminology concerning, 62; test developments for, 63; trends regarding, 76
Methodological problems in program evaluation: criterion problem, 218; in relation to experimental design, 220
Methodology in assessment of teacher behavior and instruction: criterion problem, 422; interpersonal relations in the classroom, 424; observation processes, 423; scheme for classifying teacher behaviors, 423
Mixed model—repeated measurement designs: complex mixed designs involving repeated measurements, 493; one fixed factor—repeated measures on random factor, 491; two fixed factors—repeated measures on random factor under one fixed factor, 492
Models: in general, 240; search for, 304
Models in statistical learning, empirical tests of: conditional dependencies, 548; matching rule, 547; variety of statistics, applied, 548
Models in statistical learning, important extensions: concept formation in children, 550; reaction time, 551; response magnitude, 550; social psychology, 549
Models in statistical learning, types of: incremental, 546; pattern, 544; pattern, generalized, 546; strategy, 546
Morale, opinions, and attitudes of teachers: 409
Multidimensional scaling: applications, 538; individual differences, 538
Multifactor designs without repeated measurements: Latin square designs, 495; randomized block designs, 493; response surface and related designs, 494
Multiple comparisons: contributions to, 485; separation of populations in relation to, 495
Multiple handicaps in relation to: deaf and hard of hearing, 56; visually handicapped, 43
Multivariate analysis of variance: 497

Need and preparation of teachers in higher education: 391
New and promising areas of research: in curriculum, 332; in procedures, 333; in teacher personnel, 445
New and promising procedures of research in teacher personnel: 446
New media in teacher education: 374
Null hypothesis, rejection or acceptance of: 467

Occupational classification: 200
Occupational information, sources of: 201
Occupational psychology: 199
Occupations units, career conferences, and vocational guidance in regular course work: 210
Organization and administration of guidance services in relation to: special services, 154; teacher vs. specialist participation, 155; timing in introducing guidance services, 155; types of counselor assignments, 153; use of data-processing equipment, 154; use of ratios, 153
Organization of special education: at federal level, 8; at local level, 9; at state level, 8; extension of programs and services in relation to, 10; segregated and integrated programs of instruction in relation to, 9

Orientation and special guidance courses: 209

Parametric and nonparametric statistics, selected contributions to: books, in statistical methodology, 474; contingency tables, 484; general contributions to the theory of statistical inference, 475; inference concerning authorship, 479; multiple comparisons, 485; significance tests, 480; theory of estimation, 477; theory of statistical inference, 475
Parent groups, counseling with: 208
Perception-diagnosis theory of teaching: 419
Personality characteristics: in teacher selection, 361
Personality structure in relation to dynamics of change in curriculum: 311
Philosophical basis for inference from experimental studies: 490
Philosophical trends in guidance, counseling, and personnel services: 146
Physics: 281
Power and efficiency: 482
Preparation and professionalization of specialists: 175
Preparation of counselors: 172
Pre-service and in-service education for teachers: campus laboratory school, role of, 377; elementary teachers, concerning, 370; in-service programs, 373; new media, with reference to, 374; needed research in, 378; professional laboratory experiences, concerning, 375; secondary teachers, concerning, 371
Pre-service programs: 370
Problems of design in curriculum research: 324
Problems of robustness, power, and efficiency, miscellaneous contributions to: 482
Professionalization of counselors in educational settings: 174
Program evaluation: control group studies, 216; criterion problem in, 218; follow-up studies, 215; general discussions, 214; methodological problems in, 218; problems of experimental design in, 220
Programed instruction for the mentally retarded: arithmetic studies, 133; automated curriculum study, 135; comparison of classroom and programed learning techniques, 130; confirmation procedures, 131; inductive reasoning study, 135; intelligence and step-size study, 134; language studies in, 126; picture program in teaching sight vocabulary, 127; sentence program using verbal prompts, 129; spelling, 132; types of projects in, 126; use of retarded tutors, 128; word learning, 130
Psychological forces influencing curriculum decisions: learner, 268; learning outcomes, 272; learning process, 269; research design and psychological influences, 273; school learning situation, 270
Psychophysics: 534
Published works: of critical significance in area of teacher personnel, 443
Pupil behaviors: products of instructor behaviors, 429; pupil achievement and learning, 430

Randomized block design: 493
Recruitment: age at making decision to be teacher, 356; factors in decision making, 356
Recruitment and selection of prospective elementary and secondary school teachers: factor studies, 364; recruitment, aspects of, 355; selection, factors pertaining to, 358
Regression analysis: accretion and deletion procedures, 503; *B*-nonlinear models, 502; computer analysis, 505; miscellaneous topics, 505; regression models, 501; *x*-nonlinear models, 502
Regression and correlation: correlation analysis, 506; regression analysis, 501
Relational contexts in curriculum research: 322
Research designs and psychological influences: 273
Research needed concerning: conditions of employment and service in elementary and secondary schools, 388; preservice and in-service teacher education, 378; teacher certification, supply, and demand, 351; understanding teacher behavior, 433
Research procedures, new and promising: 333
Research theory, nature of: analysis of problems, 235; natural history stage, 236; stages of inquiry, 234

Response surface and related designs: 494
Retention of teachers: 385
Robustness: problems of robustness, power, and efficiency, miscellaneous contributions to, 482; *t*-test with the Wilcoxon-Mann-Whitney *U*-test, comparison of, 480
Roles and functions of pupil personnel workers in relation to: health services, 156; nomenclature of guidance services, 157; psychological services, 157; role and function of the counselor, 158; self-perceptions of counselors, 157
Roles and role perception in relation to dynamics of change in curriculum: 311

Salaries and other benefits: in elementary and secondary education, 386; in higher education, 394; for teachers in general, 398; for women teachers, 399; in relation to additional employment, 400
Sample surveys in education, design of: development of statistical theory, 524; Furno's study, 528; general references, 523; limitations of educational applications, 528; Project Talent, 527; sampling as means of identifying information in census, 527; teacher surveys, 527; use of available lists in sampling procedures, 526
Scaling and measurement theory: computer models, 539; history of psychometrics, 534; information theory, 535; mathematics and psychology, 540; multidimensional scaling, 536; psychophysics, 534; reviews and integrative summaries, 539; signal detection, 535
Scheme for classifying teacher behaviors: 423
School learning situation: automated instruction and teaching machines, 271; group interaction, 272; task and method variables, 271; teacher, 270
Science: chemistry, 282; physics, 281
Secondary school teacher education: 371
Selection, factors pertaining to: academic competence, 359; career commitment, 361; criteria, 358; personality characteristics, 361
Selection of personnel specialists: 171
Selection, preparation, and professionalization of specialists: 171
Signal detection: 535
Significance tests: miscellaneous contributions to problems of robustness, power, and efficiency, 482; new tests, 483; parametric versus nonparametric tests, 480; robustness of *t*-test with Wilcoxon-Mann-Whitney *U*-test, 480; statistical assumptions in relation to, 468; statistical inference, use of, for, 465; statistical significance and substantive significance, 467
Social problems in relation to public schools: delinquency, 260; dropouts, 259; economic influences, 262; political problems, 261
Social realities in relation to school situation: family life, 258; peer culture, 257; racial and ethnic differences, 254; religion, 255; socioeconomic class, 256
Social status of teachers in relation to: educational level, 406; images and stereotypes of teachers and teaching, 407; occupation of father, 407
Social studies: 287
Society and culture in guidance, counseling, and personnel services in relation to: college students, 143; culturally deprived, 145; school-age youth, 144; values, 144
Special classes and related educational provisions for the emotionally and socially handicapped: dynamic factors in therapeutic education, 116; school consultation and liaison, 117; therapies affecting learning, 118
Special education: administration, 11; background, 5; needed research in, 15; organization, 8; supervision, 12
Special topics in design and analysis of experiments: additivity, 496; assumptions in two-group designs, 497; covariance analysis, 497; multiple comparisons and separation of populations, 495; multivariate analysis of variance, 497
Speech handicapped: aphasia in, 26; articulatory disorders in, 22; cerebral palsy in, 27; cleft palate in relation to, 27; incidence of, 20; language development in, 21; laryngectomy in, 27; miscellaneous contributions to study of, 30; research on, trends in, 31; speech problems related to other disorders, 29; speech science, 31; stuttering in, 24; testing and research

techniques for, 20; voice disorders in, 23
Staff organization and utilization: 383
Statistical hypothesis testing, problems in: data analysis and statistical hypothesis testing, 469; decision theory and conclusion theory, 467; null hypothesis, rejection or acceptance of, 467; significance tests and statistical assumptions, 468; statistical significance and substantive significance, 467; statistics and experimentation, 469; statistics and psychological theory, 470
Statistical inference: Bayesian statistical theory, contributions of, 462; Fisher, contributions of, 458; hypothesis testing in relation to, 455; likelihood principle in relation to, 464; Neyman and Pearson, contributions of, 458; significance tests, use of, 465; theories of, in relation to significance tests, 457; theory of, general contributions to, 475; Wald, contributions of, 460
Statistical learning models: alterations of older models, 544; empirical tests, 547; extensions, 549; other models, 551; prospectus, 552
Statistics: experimentation in relation to, 469; psychological theory in relation to, 470
Structures and groupings of disciplines: 249
Studies of critical significance in curriculum planning and development: 330
Summary of teacher-student variables: as considered in the literature, 424
Supervision in special education: community and parent relationships in relation to, 14; evaluation of instruction as problem in, 12; guidance, placement, and follow-up, 13
Supply and demand: economic factors, 347; needed research in, 351; remedies for the shortage, 350; subject and grade level factors, 348; other factors, 349
Surveys: *see* sample surveys in education

Task and method variables: 271
Teacher: 270
Teacher and teaching effectiveness: characteristics, 296; personality, 295
Teacher as problem solver: model for, 421
Teacher attitudes and opinions: 409
Teacher-board relations: legal aspects of, 404
Teacher certification, supply, and demand: 343
Teacher education: 369
Teacher effectiveness: 431
Teacher examinations: 345
Teacher load: 384
Teacher morale: 387
Teacher personnel research in higher education: need and preparation of teachers, 391; new data sources concerning, 396; ratings and evaluation in, 392; salaries and other benefits, pertaining to, 394
Teacher-pupil relations: legal aspects of, 404
Teacher status and role expectations: 382
Teacher-student variables in relation to systems approach: 424
Teaching: analysis of teaching act, 293; as system of social action, 419; teacher and teaching effectiveness, 295; technology of, 301
Team teaching: 288
Technology of teaching: 301
Tenure of teachers: 402
Test taking and its preparation in relation to: instructions, 188; perception, 189; practice, 188; screening, 189
Theory for education: defined, 239; in educational research, 238; in relation to curriculum development, 238; usages of the term, 237
Theory of curriculum planning and development: 334
Theory of estimation: interval estimation, 478; point estimation, 477
Theory of instruction and teacher behavior: contributions in general, 445; information system model, 420; model viewing teacher as problem solver, 421; perception-diagnosis theory of teaching, 419; teaching as system of social action, 419
Theory of statistical inference, general contributions: AERA-sponsored publications, 476; mathematical statisticians, 477; psychological literature, 476; three basic contributions, 475
Theory making in education: incomplete analogy, 242; models, 240
Track organization: 289

Visually handicapped: general works concerning, 38; identification and classification of, 38; mobility of, 41; multiply handicapped in relation to,

43; professional preparation of workers with, 44; reading and writing by, 40; social psychology regarding, 42; tests and psychological studies concerning, 41

Vocational development process: career development, 197; occupational classification, 200; occupational information, sources of, 201; occupational psychology, 199; women's career development, 200

Vocational guidance in regular course work, 210